# Science Long Term Plan 2024-25

## Science

At Gilbert Colvin Primary School, our science curriculum is designed to be stimulating, nurturing of children's natural curiosity and deepen intellectual development. It inspires our pupils to embrace challenge, have a passion for learning, take risks, collaborate, and aspire to achieve their best in our aspirational and inclusive environment. It creates a sense of awe and wonder for our children who are encouraged to ask questions about the world around them which leads to our children seeing themselves as scientists.

Through our high quality science curriculum, our children:

- Develop scientific knowledge, skills and conceptual understanding through high quality lessons and enquiries that are progressive across the school.
- Ask questions about the world around them, they are resilient and learn through exploration.
- Take advantage of school and local environment to develop a love, curiosity and care of the natural world.
- To learn about scientists (past & present) and use this as inspiration to make positive contributions to the world.
- Will have real world experiences; they have the opportunities to go on trips and have visitors in to inspire them.
- Make links with other subjects to help them remember their learning.
- Are challenged to ask questions about science and become independent scientific thinkers.
- Celebrate their achievements in science and are proud of their work.

## Teaching and Learning

At Gilbert Colvin, we use White Rose Science to meet the requirements of the National Curriculum. This enables our pupils to develop their substantive and disciplinary knowledge and skills throughout the school. Topics are categorised into the 3 scientific disciplines of Biology, Chemistry and Physics. Each year group also plans to look at key scientists (past and present) and their accomplishments - these are used to inspire the children. All lessons are progressive across the key stages and allow the children to use prior learning to support them in science.

Class teachers plan a variety of experiences for the children, including: going on trips, having visitors in, participating in workshops. This is celebrated throughout the school and there is an opportunity for whole-school science activities throughout the year.

Working scientifically skills are embedded within our curriculum as pupils focus on the key features of scientific enquiry and seek out answers to questions. Children are encouraged to be independent when working on investigations. Classes have working walls which support the children with their learning throughout each topic. Key vocabulary is used in every lesson with the children having access to high-quality scientific resources. All lessons are adapted so that all children can achieve at their level. Children working at greater depth are identified and challenged so that they can question their learning and become increasingly independent when working scientifically.

## Assessment

We measure the impact of our lessons by having specific objectives which the children must meet within each topic. These are progressive and are split across the three disciplines of Science: Biology, Chemistry, Physics as well as Working Scientifically.

At the top of each planning document, all of the skills and knowledge which the children should be taught are listed. These are used as success criteria throughout the unit and should then be used to assess the children's substantive and disciplinary knowledge.

The children are listed in the assessment table in the planning format and are recorded as having reached *Working Towards Standard* or *Working at the Expected Standard*, according to how well they were able to meet all of the unit objectives.

## Enrichment & Cultural Capital

At Gilbert Colvin, we believe that enrichment opportunities are vital in creating a creative curriculum and so plan in activities throughout the year.

We develop our understanding of Science by going on educational visits to places like the Science Museum, going on walks to other places of local interest and by participating in national events and competitions.

Our successful approach to science ensures pupils:

- have a high quality and practical science curriculum based on developing their knowledge and understanding of the world around them
- demonstrate an enthusiasm and enjoyment of science
- become independent and curious scientists who ask questions and find things out for themselves
- leave for secondary school equipped with the science knowledge and skills to succeed in their further education

**Yearly Overview**

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| **Year 1** | The Human Body<br><br>Seasonal Changes - Autumn | Everyday materials<br><br>Seasonal Changes - Winter | Plants<br><br>Planting A | Planting B<br><br>Sustainability – Caring for the planet<br><br>Seasonal changes - Spring | Animals including humans<br><br>Planting C | Growing and Cooking<br><br>Seasonal changes - Summer |
| **Year 2** | Materials | Animals including humans – Animals Need for Survival | Living things and their habitats | Humans<br><br>Plants – Light and Dark | Plants – Bulbs and Seeds<br><br>Sustainability – Plastic | Growing Up<br><br>Sustainability – Wildlife |
| **Year 3** | Light | Nutrition and Diet<br><br>Sustainability – Food Waste<br><br>Rocks | Fossils<br><br>Soil | Plants | Skeletons and Movement | Forces and magnets<br><br>Biodiversity<br><br>(Plants B) |
| **Year 4** | States of matter<br><br>Data Collection | Group and classify living things<br><br>Habitats<br>Deforestation | Sound | Electricity<br><br>Sustainable energy<br><br>Data collection B | Digestive system | Food Chains<br><br>Data collection C |
| **Year 5** | Forces<br><br>Sustainability - Pollution | Space<br><br>Sustainability – Global warming | Animal Including humans | Animals including humans (continued)<br><br>Life cycle | Properties and changes of materials | Reproduction A<br><br>Reproduction B |
| **Year 6** | Living things and their habitats | Light | Electricity | The circulatory system | Variations<br><br>Adaptation | Fossils |

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| | | **Sustainability – Light pollution** | **Sustainability – renewable energy** | **Diet, drugs and lifestyle** | | |